The Affordable Clean Energy (ACE) rule

ACE was finalized by the US Environmental Protection Agency (EPA) in June 2019. ABB offers several software solutions and services that can help our customers and prospects to begin working towards the general requirement of reducing CO₂ emissions.

This document provides a brief overview of the rule and compliance timeline, followed by specific information on what companies can do to begin preparing, as well as how ABB can help.

What is impacted?
ACE applies only to existing coal-fired electric utility steam generating units that:

- Are in operation or under construction as of when the proposal is published in the federal register
- Are 25 MW or greater (must sell to the electric grid)
- Have a base load rating greater than 250 MMBtu per hour of fuel heat input

The following are excluded:

- Integrated gasification combined cycle plants (IGCCs)
- Modified or reconstructed units
- Stationary combustion turbines
- Non-fossil generating units

What does ACE propose?
ACE is intended to ensure that coal plants address their CO₂ emissions by reducing their CO₂ intensity (lb CO₂/MWh), but does not target their absolute emissions. It establishes emission guidelines for states to use when developing plans for “standards of performance” to limit power plant CO₂ emissions. States may choose to account for source-specific factors, such as remaining useful life, when developing plans, and they have wide latitude to determine compliance schedules.

ACE offers a list of candidate technologies for states to choose from for coal plant heat rate improvements. These include:

- Neural network/intelligent sootblowers
- Boiler feed pumps
- Air heater and duct leakage control
- Variable frequency drives
- Blade path upgrades for steam turbines
- Redesign or replacement of economizer
- Improved operating and maintenance practices
What is the compliance timeline?

Publication of the ACE rule is one step in a process that will take years.

- Aug 21, 2018: EPA released ACE proposal
- Aug 31, 2018: EPA published ACE proposal in the Federal Register, triggering a 60-day comment period
- Jun 19, 2019: EPA released the final ACE rule
- 2022: States submit compliance plans
- 2023: EPA approves or rejects compliance plans
- 2024: Start of compliance
- 2025: If EPA rejects state plan or state submits no plan, EPA promulgates federal plan

Why act now?

It may seem that there is no urgency to act now, for several reasons:

- ACE does not require any specific action or quantifiable emission reduction goals from states.
- We do not yet know how states will craft their compliance plans.
- Like its predecessor rule and many other environmental regulations, it is highly subject to legal challenge and delay. There is also the potential for changes if this rule is still open to revision when a future EPA takes control.

Nevertheless, new regulations such as these can result in hundreds of millions—or even billions—of dollars in impact to a large industry player. Because of these uncertainties, companies should begin to perform detailed financial analyses now so they are well informed and prepared for any outcome. Results can be used to shape lobbying, regulatory, and potential investment activity across the industry well in advance of regulations becoming final. Companies that are prepared will be in the best position to evaluate impact and influence the regulatory process.

How can ABB help?

ABB offers several software solutions and services that can help our customers and prospects to begin working towards the general requirement of reducing CO₂ emissions.

Here is how ABB helps:

1. ABB offers best-in-class production simulation software. This software is able to model detailed hourly operation of every power plant on the grid over an extended planning horizon. This software includes a full emissions model, which can evaluate the changes in production and supply costs based on different emission regulation scenarios.

2. ABB has the most comprehensive database of power plant asset and production data, compiled from hundreds of sources. This data is crucial to effective modeling and analysis. Data such as detailed heat rates, ramp rates, min up/down times, as well as hourly continuous emissions data are examples of the data that is leveraged in order to effectively model plant operations and understand and potential future impact of operating under a new set of conditions.

3. The ABB Advisory team is staffed with skilled consultants who are experts at using the ABB software and database tools to conduct scenario analyses. The combination of software, data and expertise offers ABB’s customers a one-stop shop for expert analysis and consulting support.

Additional information

For additional information, please call us toll-free at +1-800-868-0497 or email Benson Joe, Advisory Services Director – Grid Edge Technologies (benson.joe@us.abb.com)